IN THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the Application:

LISTING OF CLAIMS:

1.   (Currently amended) A method of controlling the motion of an objective lens when performing a jump of the focus point (P) of a light beam, focused by the objective lens (6), along a focusing direction (Z) from a first layer (L1) to a second layer (L2) of a multilayer optical disc (1), comprising the steps of, when a jump order is issued:

[--]   moving (52) said objective lens relative to a static reference along said focusing direction towards the second layer according to a set of kinetic parameters ;

[--]   monitoring (54), during the motion, a focus error signal (FE) correlated with the shift (Δz) between the focus point and the first layer ;

[--]   measuring a time period (Δt) between a first characteristic value and a second characteristic value of said focus error signal ; and,

[--]   when the second characteristic value is detected, adjusting (56, 57) said set of kinetic parameters depending on said time period to overcome the effects of the disc motion relative to said static reference; and

[--]   moving further (58) said objective lens towards the second layer according to the set of adjusted kinetic parameters.

2.   (Currently amended) A method of controlling the motion of an objective lens as claimed in claim 1, wherein said adjusting step comprises a step of calculating (56) an instant acceleration (adisc) of the disc (1) relative to said static reference depending on said time period (Δt), the set of kinetic parameters being adjusted depending on said instant acceleration of the disc.

3.   (Currently amended) A method of controlling the motion of an objective lens as claimed in claim 2, wherein for the adjustment of the set of kinetic parameters, the acceleration (a^sc) of the disc relative to said static reference is considered to be constant throughout the completion of the jump.

4.   (Currently amended) A method of controlling the motion of an objective lens as claimed in one of claims 1 or 2 claim 1, wherein the set of kinetic parameters comprises kick (aacc) and brake (abrake) accelerations of the objective lens (6) along the focusing direction (Z) relative to said stator, and kick and brake periods of time (T) during which the objective lens is successively moved at the kick acceleration and at the brake acceleration respectively, the adjusting step (57) consisting in determining an adjusted value for at least one of said kick and brake accelerations, said kick and brake periods of time being fixed.

5.   (Currently amended) A method of controlling the motion of an objective lens as claimed in one of claims 1 or 2 claim 1, wherein the set of kinetic parameters comprises kick (aacc) and brake (abrake) accelerations of the objective lens (6) along the focusing direction (Z) relative to said static reference, and kick and brake periods of time (T) during which the objective lens is successively moved at the kick acceleration and at the brake acceleration respectively, the adjusting step (57) consisting in determining a adjusted value for at least one of said kick and brake periods of time, said kick and brake accelerations being fixed.

6.   (Currently amended) A circuit intended to cooperate with an optical pickup head (2) that comprises an objective lens (6) for focusing a light beam at a focus point (P), said circuit comprising,
[--]   means (22) for moving the objective lens (6), relative to a static reference, along a focusing direction (Z) from a first layer of a multilayer optical disc towards a second layer of said disc according to a set of kinetic parameters;

[--]   means (8, 21) for monitoring, during the motion of the objective lens, a focus error signal (FE) correlated with the shift (Δz) between the focus point (P) and the first layer;

[--]   means (25) for measuring a time period (Δt) elapsed between a first characteristic value and a second characteristic value of said focus error signal; and,

[--]   means (25) for adjusting said set of kinetic parameters, when said second characteristic value is reached, depending on said time period, to overcome the effects of the disc motion relative to said static reference.

7.   (Currently amended) A multilayer optical disc reading and/or writing apparatus comprising:

[--]   an objective lens (6) for focusing a light beam at a focus point (P);

[--]   means (22) for moving the objective lens (6), relative to a static reference, along a focusing direction (Z) from a first layer of a multilayer optical disc towards a second layer of said disc according to a set of kinetic parameters;

[--]   means (8, 21) for monitoring, during the motion of the objective lens, a focus error signal (FE) correlated with the shift (Δz) between the focus point (P) and the first layer;

[--]   means for measuring a time period (Δt) elapsed between a first characteristic value and a second characteristic value of said focus error signal; and,

[--]   means for adjusting said set of kinetic parameters, when said second characteristic value is reached, depending on said time period, to overcome the effects of the disc motion relative to said static reference.

8.   (Currently amended) A multilayer optical disc reading and/or writing apparatus as claimed in claim 7, wherein said adjusting means comprise means for calculating a disc acceleration (adisc) relative to said static reference depending on said time period (Δt), the set of kinetic parameters being adjusted depending on said instant acceleration of the disc.

9.   (Currently amended) A multilayer optical disc reading and/or writing apparatus as claimed in claim 8 wherein for the adjustment of the set of kinetic parameters, the acceleration (a^sc) of the disc relative to said static reference is considered to be constant throughout the completion of the jump.

10.   (Currently amended) A multilayer optical disc reading and/or writing apparatus as claimed in one of claims 7 or 8 claim 7, wherein the set of kinetic parameters comprises kick (aacc) and brake (abrake) accelerations of the objective lens (6) along the focusing direction (Z) relative to said static reference, and kick and brake periods of time (T) during which the objective lens is successively moved at the kick acceleration and at the brake acceleration respectively, the adjusting step (57) consisting in determining an adjusted value for at least one of said kick and brake accelerations, said kick and brake periods of time being fixed.

11. (Currently amended) A multilayer optical disc reading and/or writing apparatus as claimed in one of claims 7 or 8 claim 7 wherein the set of kinetic parameters comprises kick (aacc) and brake (abrake) accelerations of the objective lens (6) along the focusing direction (Z) relative to said static reference, and kick and brake periods of time (T) during which the objective lens is successively moved at the kick acceleration and at the brake acceleration respectively, the adjusting step (57) consisting in determining a adjusted value for at least one of said kick and brake periods of time, said kick and brake accelerations being fixed.